

Notice of Allowability

Application No.

10/602,509

Examiner

Hetul Patel

Applicant(s)

KHAN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 27 March 2006.
2. ☒ The allowed claim(s) is/are 1, 6-11, 14-15, 19-20, 22-23, 28 and 30-44; renumbered as 1, 7, 2-5, 13-16, 19-21, 25-26, 6, 8-12, 17-18, 22-24 and 27-29, respectively.
3. ☒ The drawings filed on 24 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This Office Action is in response to the communication filed on March 17, 2006. Claims 1, 6-11, 14-15, 19-20, 22-23, 28 and 30-44 are pending in the application.
2. Claims 1, 6-11, 14-15, 19-20, 22-23, 28 and 30-44 are allowed and renumbered as 1, 7, 2-5, 13-16, 19-21, 25-26, 6, 8-12, 17-18, 22-24 and 27-29, respectively.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
4. Authorization for this examiner's amendment was given in a telephone interview with Dana B LeMoine (Reg. No. 40,062) on 04/12/2006.
5. The application has been amended as follows:
 - Replace the title with following:
 - o "DYNAMIC TLB LOCKING BASED ON PAGE USAGE METRIC"
 - In line 7 of original claims 1 and 6, line 8 of original claims 11 and 20, line 14 of original claim 28,
 - o replace the phrase "locking at least one" with the phrase -- locking, in response to comparing the value of the page usage metric, at least one --

- In line 5 of original claim 11, line 6 of original claim 20 and line 12 of original claim 28,
 - o replace the word "considering" with the word -- comparing --
- In line 6 of original claim 11, line 7 of original claim 20 and line 12 of original claim 28,
 - o replace the word "and" with the word -- to --

REASONS FOR ALLOWANCE

6. The following is an examiner's statement of reasons for allowance:

The prior arts of record do not teach nor suggest, either alone or in combination, all the limitations of the amended claims of the current invention (claims 1, 6, 11, 20 and 28); particularly a method, apparatus and a system in which the value of the page usage metric get compared with (i) the values of page usage metrics for other processes (as recited in claims 1, 11, 20 and 28); or (ii) the sum of the values of page usage metrics for other processes (as recited in claim 6); and at least one entry in the translation look-aside buffer (TLB) is locked, in response to comparing the value of the page usage metric, to make the at least one entry available to the process during at least two active periods of the process.

Claims 7-10, 14-15, 19, 22-23 and 30-44 further limit the allowable independent claims. These claims are therefore allowable for the same reason as set forth supra.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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